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10/062,649	01/31/2002	John C. Chang	56342US011	2158

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EXAMINER

FEELY, MICHAEL J

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/062,649

Applicant(s)

CHANG ET AL.

Examiner

Michael J Feely

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-7,9,11-13,15 and 16 is/are rejected.
- 7) ☒ Claim(s) 4,8,10,14 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2-4 . 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 5, 11, and 15 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for condensates of hydrolyzates of the formula $R_xSi(OR')_y$, does not reasonably provide enablement for condensates of hydrolyzates of the formula $RSiO_{3/2}$. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. The formula set forth in claims 5, 11, and 15, to represent "(b)", does not accurately depict a hydrolyzate. This appears to be an error, and the proper formula for "(b)" can be found on line 15 of page 5.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 5, 11, and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 5, 11, and 15 recite the limitations "x", "y", "R'" in the formula of component (b).

There is insufficient antecedent basis for this limitation in the claim. The formula does not contain these variables.

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Claim Objections

5. Claims 6, 12, and 16 are objected to because of the following informalities: the word --and-- should be inserted prior to the word "aminoplasts". Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language;

or

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1, 3, 6, 7, 9, 12, 13, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Sawatsky (US Pat. No. 6,346,315).

Regarding claims 1, 3, 6, and 7, Sawatsky discloses (I) a method for protecting a substrate (column 2, line 66 through column 3, line 2) comprising (a) providing a substrate

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having at least one surface (column 3, lines 3-6), (b) applying to at least part of said surface an overlay thermosettable resin (column 3, lines 9-11, 24-25; column 5, lines 4-6), (c) applying to at least part of said surface a substituted polysiloxane (column 3, lines 6-9), wherein at least a portion of said overlay thermosettable resin and at least a portion of said polysiloxane are applied to the same part of said surface (column 3, lines 3-11), and then (d) at least partially curing said overlay thermosettable resin (column 5, lines 26-27); (3) wherein said overlay thermosettable resin and said polysiloxane are applied to said surface separately (column 3, lines 3-11); (6) wherein said overlay thermoset resin comprises at least one resin selected from the group consisting of phenolics, epoxies, polyesters, polyurethanes, *and* aminoplasts (column 5, lines 4-6); and (7) wherein said substrate comprises a decorative inner layer having at least one decorative surface and said overlay thermosettable resin and said polysiloxane are applied to at least a portion of said decorative surface (Abstract; column 2, line 66 through column 3, line 2).

Regarding claims 9 and 12, Sawatsky discloses (9) a protective overlay (column 2, line 66 through column 3, line 11) comprising an at least partially cured overlay thermosettable resin (column 3, lines 9-11, 24-25; column 5, lines 4-6, 26-27) and a substituted polysiloxane (column 3, lines 6-9); and (12) wherein said overlay thermoset resin comprises at least one resin selected from the group consisting of phenolics, epoxies, polyesters, polyurethanes, *and* aminoplasts (column 5, lines 4-6).

Regarding claims 13 and 16, Sawatsky discloses (13) a decorative laminate comprising (a) a decorative inner layer having at least one decorative surface and (b) an overlay layer disposed on at least a portion of said decorative surface (Abstract; column 2, line 66 through column 3, line 2) wherein said overlay comprises an at least partially cured overlay

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thermosettable resin (column 3, lines 9-11, 24-25; column 5, lines 4-6, 26-27) and a substituted polysiloxane (column 3, lines 6-9); and (16) wherein said overlay thermoset resin comprises at least one resin selected from the group consisting of phenolics, epoxies, polyesters, polyurethanes, and aminoplasts (column 5, lines 4-6).

Regarding the interpretation of claims 7 and 13, the reference uses their coating system to coat various housewares, including china, glasses, and ceramics. The substrates (housewares), themselves, constitute a layer. Because the claim does not explicitly disclose a multi-layered substrate, the scope of the claim would have included single-layered substrates, such as the disclosed housewares. Furthermore, because houseware items are often displayed for decoration, they would have qualified as a substrate having a "decorative surface".

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sawatsky (US Pat. No. 6,346,315).

Regarding claim 2, Sawatsky does not disclose the method of claim 1 wherein the overlay thermosettable resin and said polysiloxane are applied to said surface simultaneously. However, it has been found that the selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results – *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) and *Ex parte Rubin*, 128 USPQ 440 (Bd. App. 1959).

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Because applicant does not demonstrate any new or unexpected results from this process, the step of simultaneously applying these layers would have been obvious to one of ordinary skill in the art at the time of invention.

10. Claims 1-3, 5-7, 9, 11-13, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Casalini (Canadian publication 2,315,728).

Regarding claims 1, 2, 6, and 7, Casalini discloses *(1)* a method for protecting a substrate (page 8, lines 3-18; page 1, lines 6-18) comprising (a) providing a substrate having at least one surface (page 8, lines 8-13; page 1, lines 6-18), (b) applying to at least part of said surface an overlay thermosettable resin (page 8, lines 8-13), and (c) applying to at least part of said surface a substituted polysiloxane (page 8, lines 8-13; page 4, lines 8-15), wherein at least a portion of said overlay thermosettable resin and at least a portion of said polysiloxane are applied to the same part of said surface (page 8, lines 8-13; page 4, lines 8-15); *(2)* wherein said overlay thermosettable resin and said polysiloxane are applied to said surface simultaneously (page 8, lines 8-13; page 4, lines 8-15); *(6)* wherein said overlay thermoset resin comprises at least one resin selected from the group consisting of phenolics, epoxies, polyesters, polyurethanes, and aminoplasts (page 8, lines 8-13); and *(7)* wherein said substrate comprises a decorative inner layer having at least one decorative surface and said overlay thermosettable resin and said polysiloxane are applied to at least a portion of said decorative surface (page 1, lines 6-18).

Casalini does not explicitly disclose step (d), wherein the overlay thermosettable resin is at least partially cured. The coating system taught by Casalini is a *lacquer coating* for floorings and furniture, which implicitly implies that it is applied as a liquid and dried (cured) to form a hard coating. When applying a *lacquer coating* to a floor or a piece of furniture, it would have

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been obvious or an inherent process step to allow the coating to dry and cure. Otherwise, without curing, the treated substrate would remain wet and unavailable for use.

Therefore, it would have been obvious or inherently required to at least partially cure the overlay thermosettable resin because the coating of Casalini was applied as a lacquer finish.

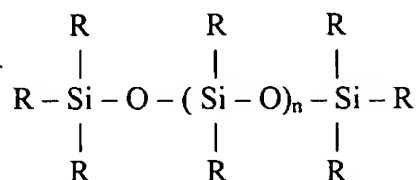
Regarding claim 3, Casalini does not disclose the method of claim 1, wherein said overlay thermosettable resin and said polysiloxane are applied to said surface separately. However, it has been found that the selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results – *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) and *Ex parte Rubin*, 128 USPQ 440 (Bd. App. 1959).

Because applicant does not demonstrate any new or unexpected results from this process, the step of simultaneously applying these layers would have been obvious to one of ordinary skill in the art at the time of invention.

Regarding claim 5, Casalini does not explicitly teach the method of claim 1, wherein said polysiloxane comprises (a) a polysilsesquioxane having repeating units of the formula $(\text{RSiO}_{3/2})_n$, wherein R is a single group or a mixture of substituted or unsubstituted alkyl or aryl groups having from one to seven carbon atoms; or (b) condensates of hydrolysates of the formula $\text{R}_x\text{Si}(\text{OR}')_y$, wherein $x + y$ is 4 and x is from 0 to 2 and y is from 2 to 4; R is a single alkyl or aryl group or mixture of alkyl or aryl groups comprising up to 7 carbon atoms, optionally substituted with halogen atoms, mercapto groups, and/or epoxy group; and R' is an alkyl radical with 1 to 4 carbon atoms.

Casalini teaches a polysiloxane material having the formula:

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wherein R is a hydrogen atom, alkyl group and/or phenyl group and n is an integer from 1 to 100; and preferably R is a methyl group. This polysiloxane is similar to the one set forth in embodiment (b); however the reference is silent whether or not this polysiloxane is produced by a condensation reaction.

This polysiloxane is described using product-by-process language, which is embedded in a method claim. It has been found that, "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process" – *In re Thorpe*, 777 F. 2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Regardless of the polymerization mechanism, the embodiment (b) of the instant claims would have corresponded to the structure set forth in Casalini.

Therefore, if not explicitly taught in the reference, then the teachings would have been obvious to one of ordinary skill in the art at the time of the invention.

Regarding claims 7 and 13, the reference uses their coating system to coat flooring materials and furniture (page 1, lines 6-12). The substrates, themselves, constitute a layer. Because the claim does not explicitly disclose a multi-layered substrate, the scope of the claim would have included single-layered substrates, such as the disclosed flooring materials and

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furniture. Furthermore, because furniture and flooring materials are often chosen and utilized for their decorative features, they would have qualified as a substrate having a "decorative surface".

Therefore, if not explicitly taught in the reference, then the teachings would have been obvious to one of ordinary skill in the art at the time of the invention.

Regarding claims 9, 11, and 12, Casalini is as set forth above in claims 1, 5, and 6 and incorporated herein to meet the limitations of claims 9, 11, and 12.

Regarding claims 13, 15, and 16, Casalini is as set forth above in claims 1, 5, 6, and 7 and incorporated herein to meet the limitations of claims 13, 15, and 16.

Allowable Subject Matter

11. Claims 4, 8, 10, 14, and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 4, 10, and 14, Sawatsky discloses a silicone material that is derived from aminopropyl-functional trialkoxysilanes. This silicone material would not have met the limitations set forth in the claims. Casalini also fails to teach or suggest a polysiloxane having the claimed ratio of carbon atoms to silicone atoms.

Regarding claims 8 and 17, Sawatsky is silent regarding a substrate comprising a decorative inner layer, wherein this inner layer comprises a thermosettable resin that is compatible with the overlay resin. The substrates disclosed by Sawatsky are limited to non-polymeric housewares. Casalini teaches the use of plastic substrates; however, the reference fails to teach or suggest the use of thermoset materials as the substrate.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J Feely whose telephone number is 703-305-0268. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson can be reached on 703-308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Michael J. Feely
May 19, 2003



Robert Dawson
Supervisory Patent Examiner
Technology Center 1700